

This listing of claims will replace all prior versions and listings of claims in this application:

a.) Listing of Claims

1. (Currently amended) An optical system production line, comprising an optical bench supply that provides optical benches; a component supply that provides optical components; a pick-and-place machine that receives optical benches from the bench supply, picks optical components from the optical component supply, and attaches bonds the optical components to the optical benches; and an optical system aligner that characterizes the positions of the optical components, which have been attached bonded to the optical benches by the pick-and-place machine, and mechanically adjusts the relative positions of the optical components, which have been bonded to the optical benches by the pick-and-place machine.
2. (Currently amended) An optical system production line as claimed in claim 1, wherein the pick-and-place machine secures bonds the optical components to the bench by solder bonding.
3. (Previously presented) An optical system production line as claimed in claim 1, wherein the optical system aligner characterizes the positions of the optical components by activating optical links of optical systems on the benches, detecting optical signals after interaction with at least some of the optical components, and adjusting the optical components to optimize transmission of optical signals over the links.
4. (Currently amended) An optical system production line as claimed in claim 1, wherein the optical system aligner energizes active components of optical systems on the benches and adjusts the optical components, which have been bonded to

the optical benches by the pick-and-place machine, to optimize optical signal transmission through the systems from the active optical components.

5. (Currently amended) An optical system production line as claimed in claim 1, wherein the optical system aligner energizes active components of optical systems and adjusts positions of at least one passive optical component, which have been bonded to the optical benches by the pick-and-place machine, in each of the optical systems to optimize optical signal transmission from the active components to the at least one passive component.

6. (Currently amended) An optical system production line as claimed in claim 1, wherein the optical system aligner energizes active components of optical systems and adjusts positions of at least two passive optical components, which have been bonded to the optical benches by the pick-and-place machine, in each of the optical system systems to optimize optical signal transmission between the passive components.

7. (Original) An optical system production line as claimed in claim 1, wherein the pick and place machine is a flip-chip bonder.

8. (Currently amended) An optical system production line as claimed in claim 1, wherein the optical system aligner comprises two jaws for engaging a mounting structure, which has been bonded to the optical benches by the pick-and-place machine, supporting the optical component and moving the structure relative to the bench.

Claims 9-16. (cancelled)

17. (Currently amended) An optical system production line, comprising an optical bench supply for providing optical benches; a component supply for providing optical components; a pick-and-place machine for receiving optical benches from the bench supply, and for picking optical components from the optical component supply,

and for attaching bonding the optical components to the optical benches;
and

means for characterizing the positions of the optical components attached that
have been bonded to the optical benches by the pick-and-place machine,
and for mechanically adjusting the relative positions of the optical
components attached that have been bonded to the benches by the pick-
and-place machine.

18. (Previously presented) An optical system production line as claimed in claim 17, further comprising the pick-and-place machine securing the optical components to the benches by solder bonding.

19. (Currently amended) An optical system production line as claimed in claim 17, further comprising the characterizing and adjusting means characterizing the positions of the optical components by activating optical links of optical systems on the benches, detecting optical signals after interaction with at least some of the optical components, and adjusting the optical components, which have been bonded to the optical benches by the pick-and-place machine, to optimize transmission of optical signals over the links.

20. (Currently amended) An optical system production line as claimed in claim 17, further comprising the characterizing and adjusting means energizing active components of optical systems and adjusting positions of at least one passive optical component, which has been bonded to the optical benches by the pick-and-place machine, in each of the optical systems to optimize optical signal transmission from the active components to the at least one passive component.